MITSUBISHI ELECTRIC

SPRIT-TYPE AIR CONDITIONERS

OPERATING INSTRUCTIONS

MS09NW

MS12NN

MS15NN

MS17NN

Mr.SLIM

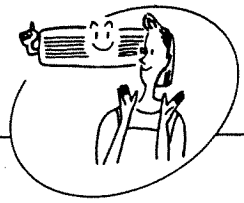
CONTENTS

SAFETY PRECAUTIONS....1
NAME OF EACH PART....5
PREPARATION BEFORE OPERATION....7
"I FEEL..." AUTO OPERATION....9
MANUAL OPERATION (COOL, DRY, FAN)....11
AIRFLOW VELOCITY AND DIRECTION ADJUSTMENT....13
SWING OPERATION....15
TIMER OPERATION (ON/OFF TIMER)....16
WHEN THE AIR CONDITIONER IS NOT GOING TO BE USED FOR A LONG TIME....17
MAINTENANCE....18
CLEANING THE AIR FILTER/DEODORIZING FILTER....19
REPLACEMENT OF THE DEODORIZING FILTER/ AIR CLEANING FILTER (OPTION)....20
BEFORE CONTACTING THE SERVICE MAN, CHECK THE FOLLOWING AGAIN....21
WHEN YOU THINK THAT TROUBLE HAS OCCURED....22
INSTALLATION, RELOCATION AND INSPECTION....24

For customers

Thank you very much for purchasing this Mitsubishi room air conditioner.

- To use this unit correctly and safely, be sure to read this instruction manual before use. Keep this manual carefully for later reference.
- Be sure to receive a guarantee card from your dealer and check that the purchased data and shop name, etc. are entered correctly.
- This air conditioner should not be installed by the customer (Safety and performance functions cannot be assured).



SAFETY PRECAUTIONS

- This air conditioner is for house hold use.
- Before using the unit, carefully read these "safety precautions" and use correctly.
- Since these cautionary items shown here are important for safety, be sure to observe them. Marks and their meanings are as shown below.

⚠ WARNING	Incorrect handling could cause a serious hazard, such as death, serious injury, etc with a high probability.
⚠ CAUTION	Incorrect handling could cause a serious hazard depending on the conditions.

Meanings of symbols used in this manual are as shown below.

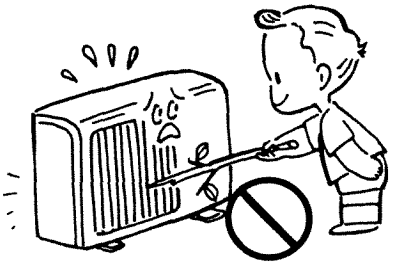
⊘	Be sure not to do.
❗	Be sure to follow the instruction.
⚠	Danger of an electric shock. Be careful.

- After reading this manual, keep it available together with the installation manual for prompt reference.

⚠ WARNING

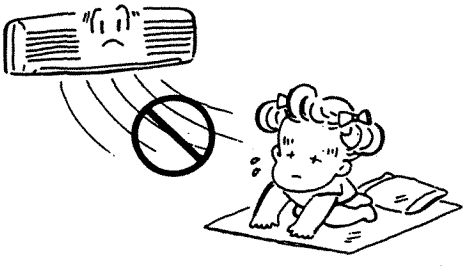
Do not insert your finger or stick, etc. into the air inlet/air outlet.

- Since the fan rotates at high speed, this may cause an injury.

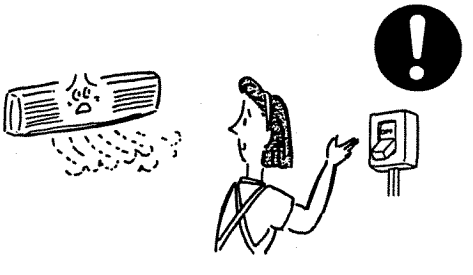


Do not expose the skin to cool air directly for long time.

- This could damage your health.

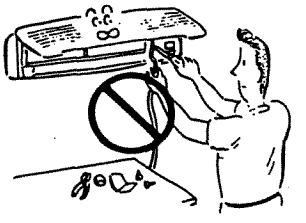


When an abnormality occurs, stop the air conditioner, and turn off the breaker.



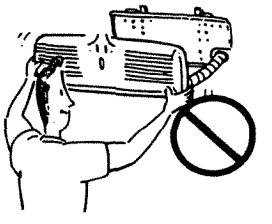
Repair or relocation should not be done by the customer.

- If this is done incorrectly, it may cause a fire, electric shock, injury by dropping of the unit, water leakage, etc.
  Consult your dealer.



The customer should not install this unit.

- If this is done incorrectly, it may cause a fire, electric shock, injury by dropping of the unit, water leakage, etc.
  Consult your dealer.

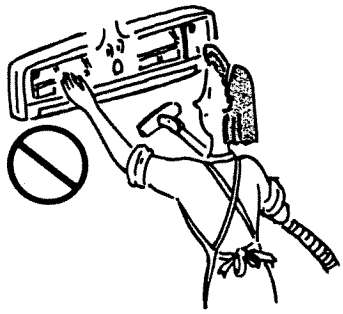


SAFETY PRECAUTIONS

⚠ CAUTION

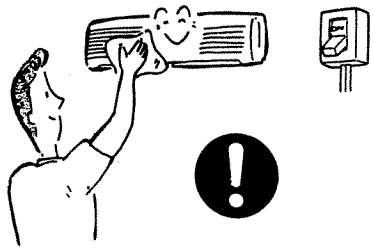
When the air filter is to be removed, do not touch the metal parts of the indoor unit.

- It may cause an injury.



Insure power is turned off at the circuit breaker before cleaning the unit.

- Since the fan rotates at high speed during operation, it may cause an injury.

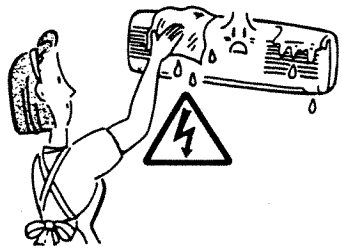


Do not operate switches with wet hands.

- It may cause an electric shock.

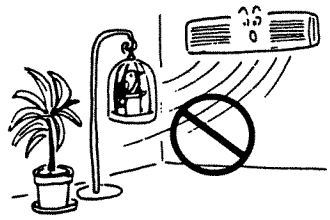
Do not clean the air conditoner with water.

- Water may enter the unit and degrade the insulation. It may cause an electric shock.



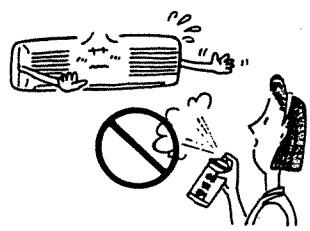
Do not put a pet or house plant where will be exposed to direct air flow.

- This could injure the pet or plant.



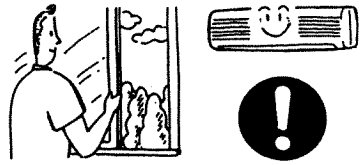
Do not apply an insecticide or flammable spray.

- It may cause a fire or deformation of the cabinet.



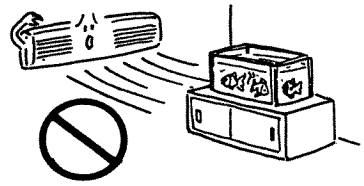
Ventilate well when used together with a stove, etc.

- An oxygen shortage may occur.



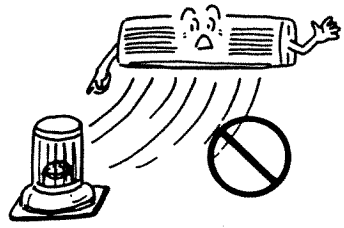
Do not use for special purposes.

- Do not use this air conditioner to preserve precision devices, food, animal, plants and art objects. It may cause deterioration of quality, etc.



Do not put a stove, heater, etc, where it is exposed to direct air flow or near the air conditioner and remote controller.

- It may cause imperfect combustion.
- The heat may deform the front panel and remote controller.

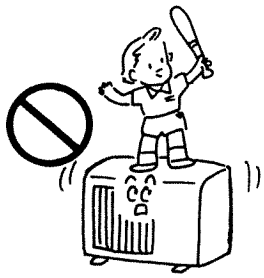


⚠ WARNING

If the air conditioner will not be operated for long periods of time, disconnect power to the system or turn the circuit breaker off.

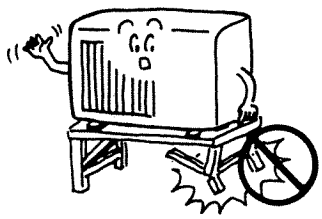
Do not step on the indoor/outdoor unit and do not put anything on it.

- It may cause an injury through dropping or falling down.



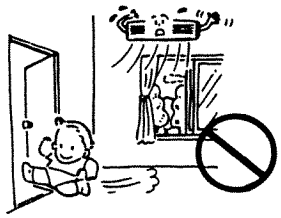
Do not leave on installation stand which is damaged.

- The unit may drop or fall down and cause an injury.



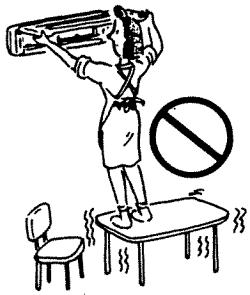
Do not operate for a long time in high humidity, e.g. leaving a door or window open.

- In the cooling mode, if it is operated in a room with high humidity (80%r.h. or more) for a long time, water condensed in the air conditioner may drop and may wet and spoil furniture, etc.



Do not step onto an unstable bench when attaching/detaching the panel.

- It may case an injury, etc. by falling down.



- Consult your dealer for installing the air conditioner.

⚠ CAUTION

Apply grounding.

- Do not connect a grounding wire to a gas pipe, water pipe, lightning rod or ground wire of a telephone. If a grounding is incorrect, it may cause an electric shock.

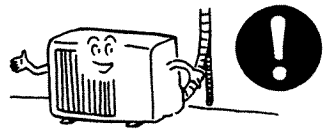
If the air conditioner is installed in a high humidity area or near a water source, a Ground Fault Interrupt (GFI) circuit breaker should be installed to protect against shock.

Do not install the unit where flammable gas could leak.

- If gas leaks and collect around the unit, it may cause an explosion.

Drain water should be fully drained.

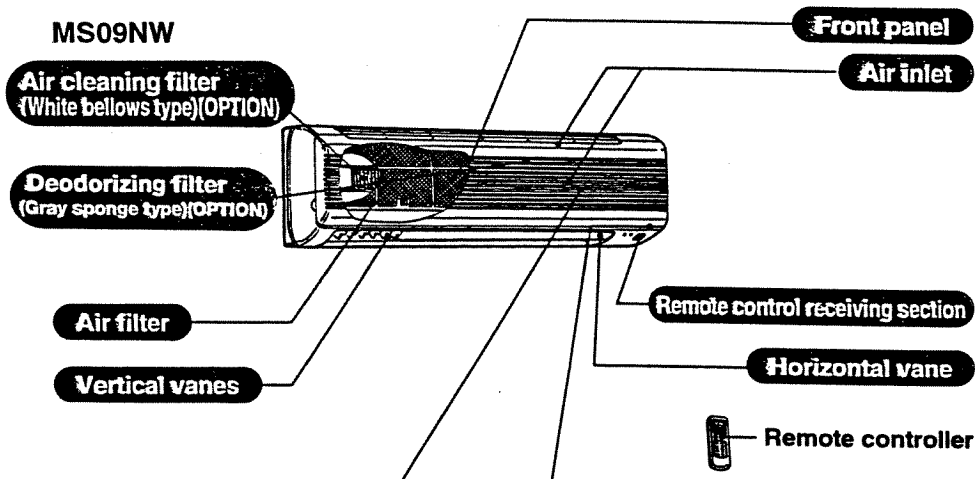
- If the drainage route is incomplete, water may drop from the unit. It may wet and spoil furniture.



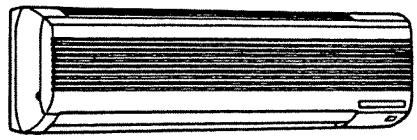
NAME OF EACH PART

Indoor unit

MS09NW



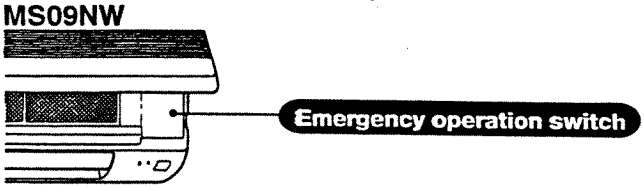
MS12NN,MS15NN,MS17NN



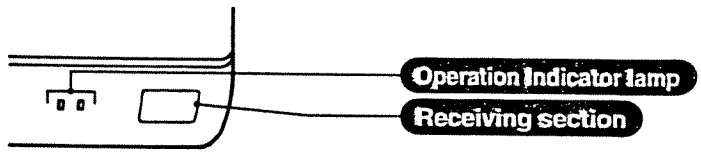
Operation section
(when the front panel is opened)

Display section

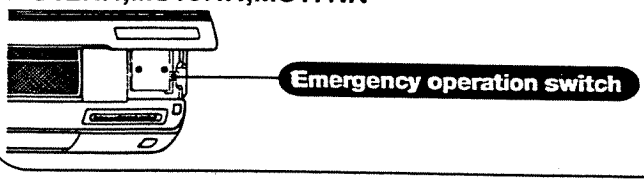
MS09NW



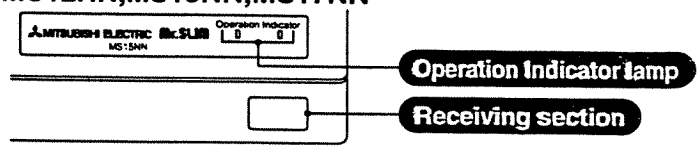
MS09NW



MS12NN,MS15NN,MS17NN

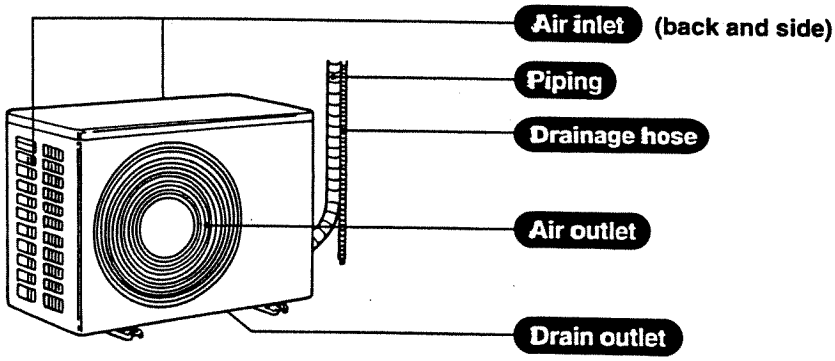


MS12NN,MS15NN,MS17NN

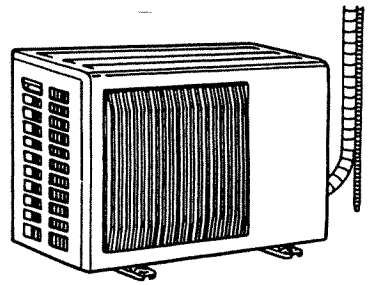


Outdoor unit

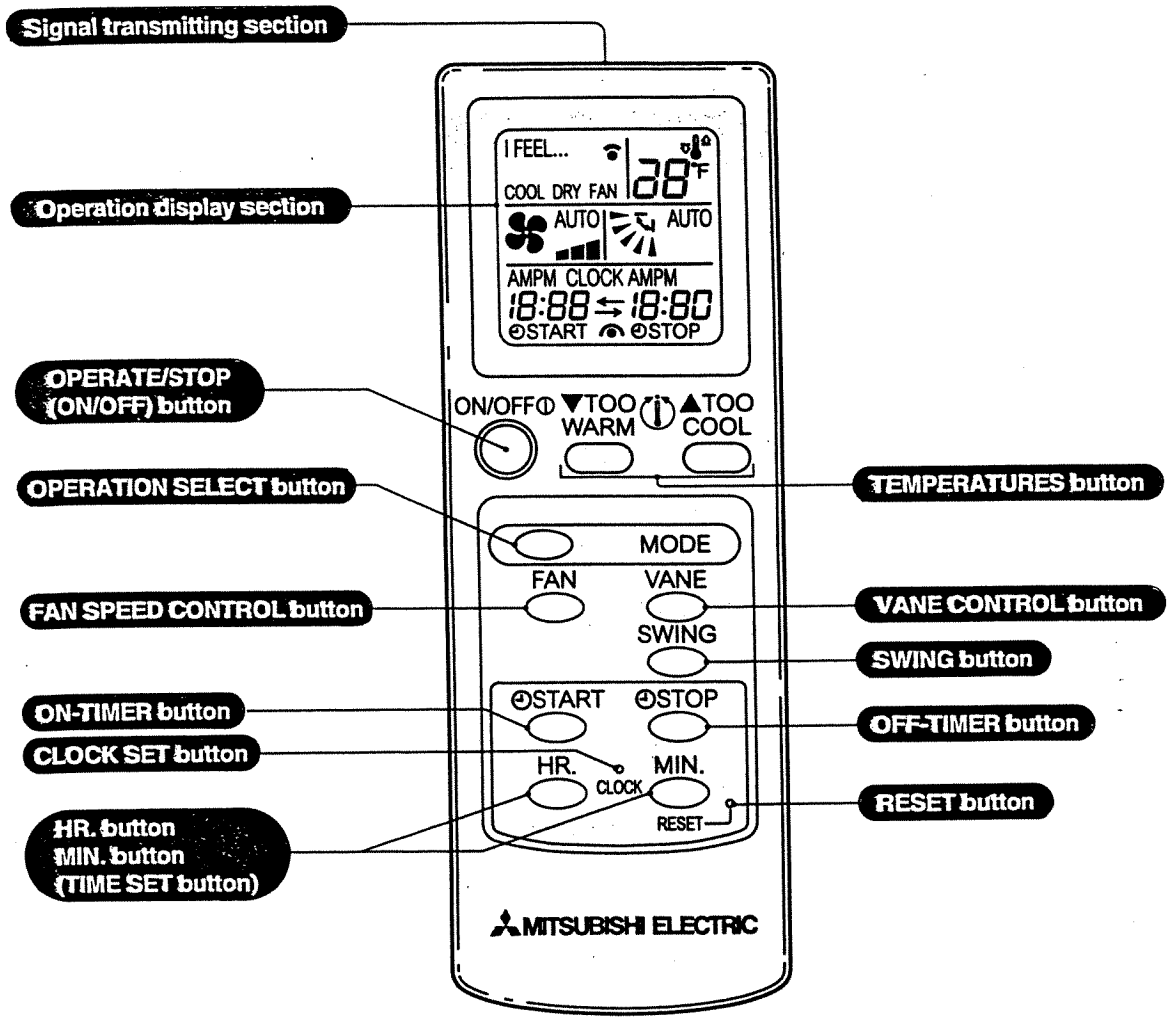
MU09NW



MU12NN,MU15NN, MU17NN



Remote controller



(This diagram shows an overall view.)

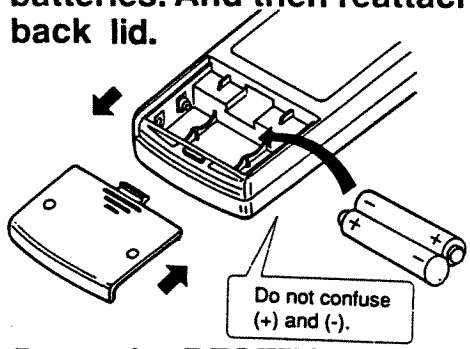
PREPARATION BEFORE OPERATION

Indoor unit

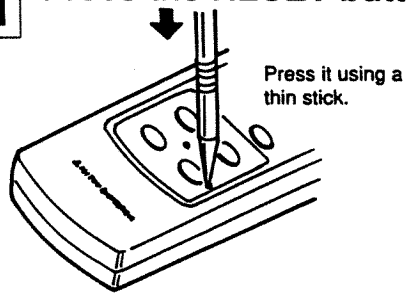
Turn the breaker ON.

Remote controller (how to set the current time)

1 **Remove the back lid and insert batteries. And then reattach the back lid.**

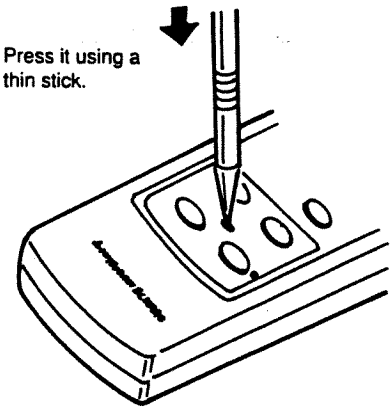


2 **Press the RESET button.**

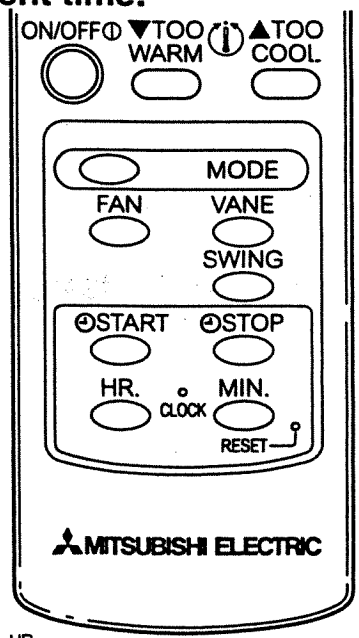


- After batteries are replaced, press the reset button.
- If the reset button is not pressed, the remote controller may not operate correctly.

3 **Press the CLOCK SET button.**

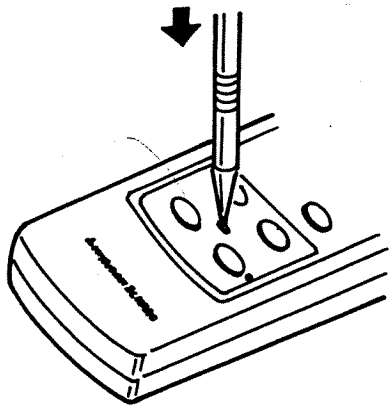


4 **Press the HR. and MIN. button (TIME SET button) to set the current time.**



- Each time the HR. button is pressed, the set time is counted up by 1 hour, and each time the MIN. button is pressed, the set time is counted up by 1 minute.

5 **Press the CLOCK SET button again.**



Handling of the remote controller

- The range that the signal can reach is about 6 m when pointed at the front of the indoor unit.
- When the button is pressed, one or two beeps will be heard from the indoor unit. If no sound is heard, operate again.
- Use the remote controller carefully. If it is dropped, thrown or gets wet, it may not operate.

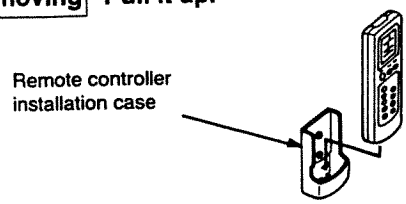
When installing on a wall, etc.

- Install it using the remote controller installation case in a position where the signal reception sound (beep) can be heard from the indoor unit when the ON/OFF ⏻ button is pressed.

How to install/remove the remote controller

Installing — Insert the remote controller downward.

Removing — Pull it up.



Dry-cell batteries

Reference for replacing batteries

When the signal does not operate the indoor unit, or the display becomes dim, replace the batteries with new alkaline batteries (size AAA).

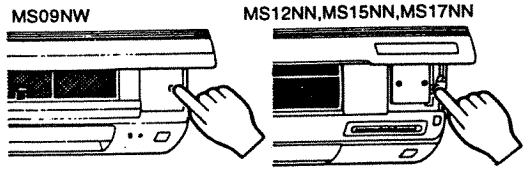
- Replace 2 batteries with new batteries of the same type.
- Do not use rechargeable batteries.
- To prevent from liquid leakage, take out all batteries when the remote controller is not going to be used for a long time.
- The service life of an alkaline battery is about 1 year.
  However, since the recommended usable time limit is indicated (month/year) on the bottom of the battery, a battery the time limit of which is approaching may become exhaust sooner.

WHEN THE REMOTE CONTROLLER CANNOT BE USED (EMERGENCY OPERATION)

When the batteries of the remote controller run out or remote controller malfunctions, EMERGENCY OPERATION can be done using the EMERGENCY OPERATION switch.

1 Press the EMERGENCY OPERATION switch.

* Each time the switch is pressed, the unit alternates between the EMERGENCY COOL MODE and STOP MODE.

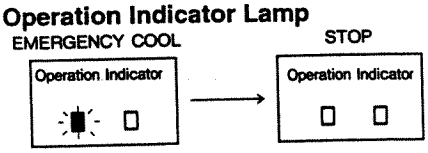


Details of operation are as shown below. However, the temperature control does not work for about 30 minutes at first and the unit is set to the continuous operation mode with the fan speed set to "Medium".

Operation Mode	COOL
Set temperature	75°F
Fan speed	Medium
Horizontal vane	Auto

The operation mode is indicated on the operation indicator lamp on the indoor unit.

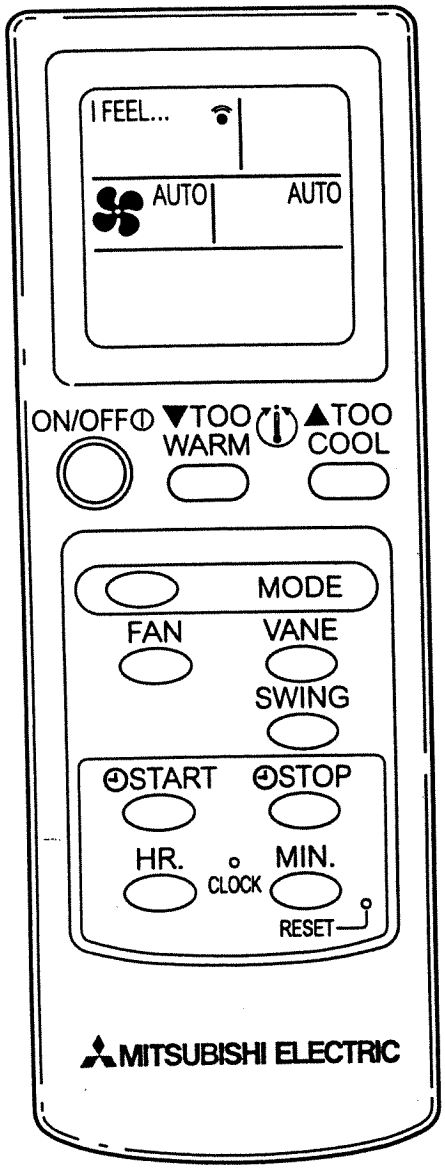
Operation Indicator Lamp



To stop EMERGENCY COOL MODE, press EMERGENCY OPERATION switch again.

"I FEEL..." AUTO OPERATION

With the "I FEEL..." auto operation mode, the optimum room condition can be set automatically by one-touch operation.



● To start operation:

Press the ON/OFF button.

When the "I FEEL..." is displayed, the air conditioner is automatically controlled at the optimum temperature.

● To stop operation:

Press the ON/OFF button.

When about 15 min. passes after operation start
If you feel slightly warm,

Press the ▼TOO WARM button to lower the temperature.

One press lowers the temperature by about 2°F.

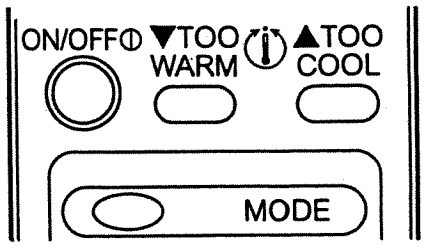
If you feel slightly cool,

Press the ▲TOO COOL button to raise the temperature.

One press raises the temperature by about 2°F.

When "I FEEL..." is not displayed press the MODE button to set to the "I FEEL..." auto operation mode.

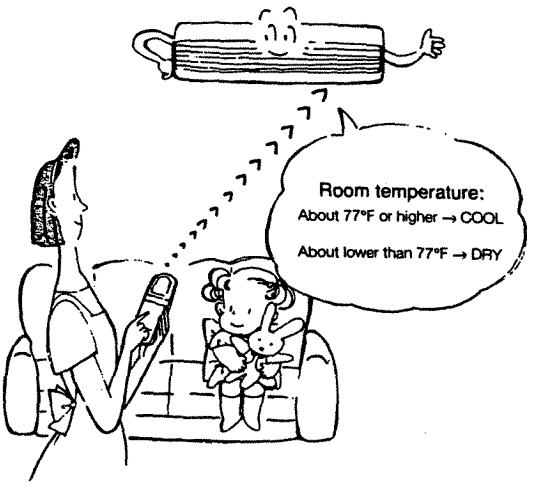
Each time the button is pressed, the operation mode is changed in sequence, from "I FEEL···", "COOL", "DRY" to "FAN".



Description of "I FEEL..." mode

Details of operation

According to the room temperature when the operation starts, the operation mode is automatically selected between COOL and DRY. However, when operation is started again within 2 hours after the operation is stopped, the same operation mode before it is stopped is selected. The operation mode selected first is not changed even if the room temperature changes.If the operation mode does not match the room condition, select the required operation mode by pressing the ⬭ MODE button.



Details of "I FEEL..." auto operation

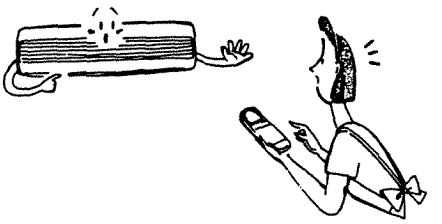
Room temperature when started	Operation mode	Target temperature (initial state)
About 77°F or higher	COOL	About 75°F
About 77°F or lower	DRY	–

NOTE

When the room temperature is 4°F higher than the set temperature, the set temperature may not be decreased since the unit operates at high power. In this case, wait until the room temperature drops to within 4°F of set temperature.

Display details on the indoor unit

The operation indicator at the right side of the indoor unit indicate the operation state.



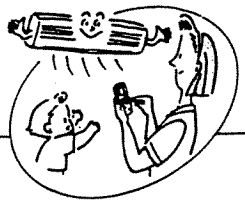
Operation Indicator

Operation Indicator lamp

Indication	Operation state	Difference between set temperature and room temperature
☼ ☼	This shows that the air conditioner is operating to reach the target temperature. Wait for some time until the target temperature is obtained.	About 4°F or more
☼ □	This shows that the room temperature is approaching the target temperature.	About 4°F or less

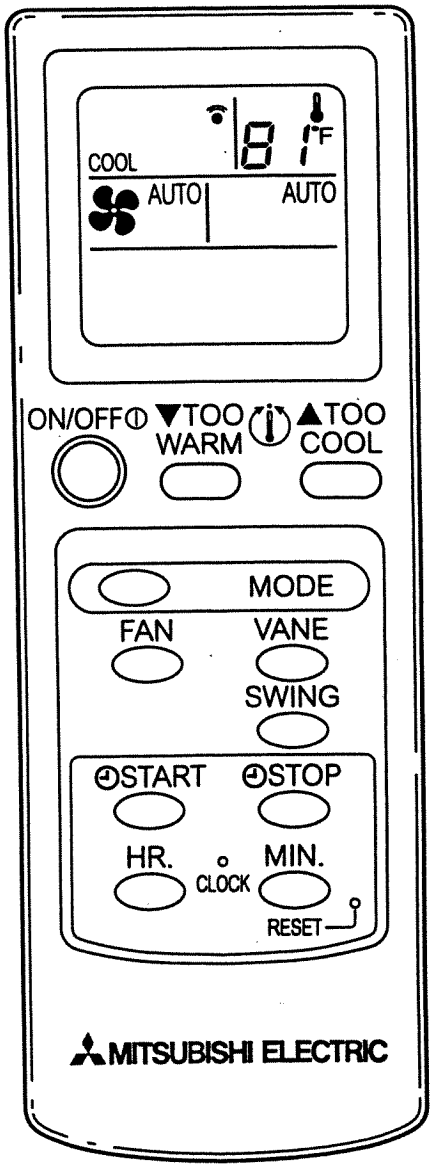
Description of "AUTO RESTART FUNCTION"

- **This unit is equipped with the auto restart function. When the main power is turned on, the air conditioner will start operation automatically in the same mode as set with the remote controller before the shutoff of main power.**
- **If the unit was set to off with the remote controller before the shutoff of main power, it will remain stopped even after the main power is turned on.**
- **If the unit was in the emergency operation before the shutoff of main power, it will start operation, at main power on, in the same mode as set with the remote controller before the emergency operation.**
- **Since the air conditioner has been shipped from the factory with the cooling mode saved in the memory for auto restart function, it starts cooling operation when the user turns on the main power for the first time after installation.**



MANUAL OPERATION (COOL, DRY, FAN)

With this operation mode, the temperature and airflow direction can be finely adjusted by selecting the operation mode.



To select the "COOL", "DRY" or "FAN" mode

1 Press the ON/OFF button.

2 Select the operation mode by pressing the MODE button.

Each time this button is pressed, the operation mode is changed in sequence, from "I FEEL...", "COOL", "DRY", "FAN".

● **To stop operation:**

Press the ON/OFF button.

After the operation mode is set once, the operation starts in the mode set previously from the next time by simply pressing the ON/OFF button.

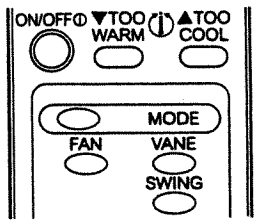
When the set temperature is to be changed:

■ Press the ▼TOO WARM button to lower the temperature.

One press lowers the temperature by about 2°F.

■ Press the ▲TOO COOL button to raise the temperature.

One press raises the temperature by about 2°F.



In "DRY" operation

■ The temperature control (temperature setting) cannot be done.

■ The room temperature is slightly lowered in this operation mode.

The details displayed on the indoor unit are the same as those in the "I FEEL...".

See page 9.

Note

■ When the ambient temperature is too high, the room temperature may not reach the set temperature since the unit operates to cool at high load.

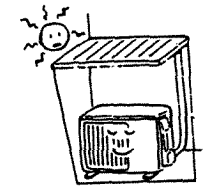
CONVENIENT INFORMATION

COOL For effective cooling

① Close the windows and pull down blinds. Sunshine is reduced and cooling efficiency increases.

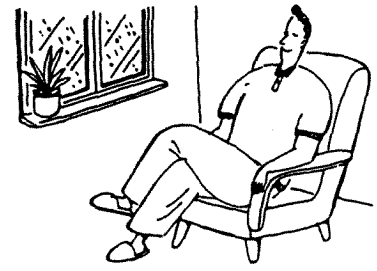
② Paste a heat shield film (generally available) on the window. Heat entering the room is reduced.

③ Block the outdoor unit from direct sunlight. This saves energy.



DRY The humidity at which humans feel comfortable

When air contains too much moisture, humans feel clammy. Humidity is related with temperature and wind. The humidity at which humans feel comfortable is 60%~75%RH in summer, 55%~70%RH in winter.

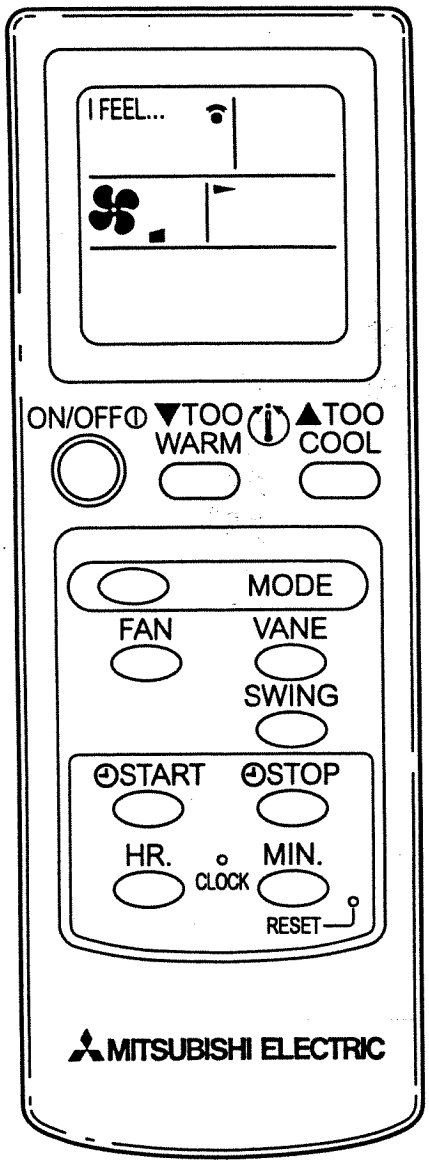


Description of "AUTO RESTART FUNCTION"

■ Refer to page 10.

AIRFLOW VELOCITY AND DIRECTION ADJUSTMENT

AIR FLOW velocity and direction can be selected as required.



To change the AIR FLOW velocity, press the FAN button.

Each time the button is pressed, fan speed is changed in sequence, from [Lo] [Med] [Hi] AUTO.

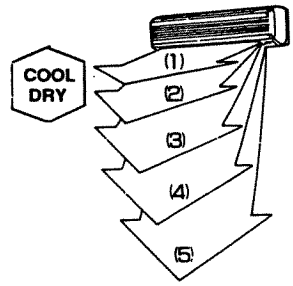
- To condition the whole room, use the [Hi] mode.

To change the AIR FLOW blowing direction vertically, press the VANE button.

Each time the button is pressed, angle of horizontal vane is changed in sequence, from (1) (2) (3) (4) (5) AUTO.

Recommended horizontal VANE range

Use in the AUTO position usually.
Use (1) or (2) position (COOL, DRY) when adjusting as required.



Note

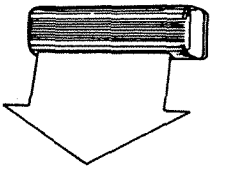
- **In the cooling operation, when the air conditioner is operated with AIR FLOW blowing down (4) or (5) for 1 hour, the AIR FLOW direction is automatically set to level to prevent condensed water from dropping.**
- **Adjust the vertical AIR FLOW direction using the remote controller. If the horizontal vane are moved manually, it may cause trouble.**

AUTO AIR FLOW DIRECTION CONTROL OPERATION

◆ When the AUTO mode is selected with the VANE button, the position of the horizontal vane are automatically set to correspond to the operation mode to perform effective operation.

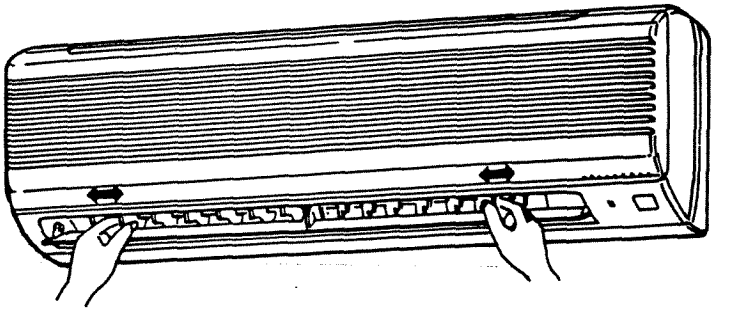
(1) **COOL, DRY**
The air flow blows level.

(2) **FAN**
The air flow blows down



To change the horizontal direction of the AIR FLOW

move the vertical vanes manually.

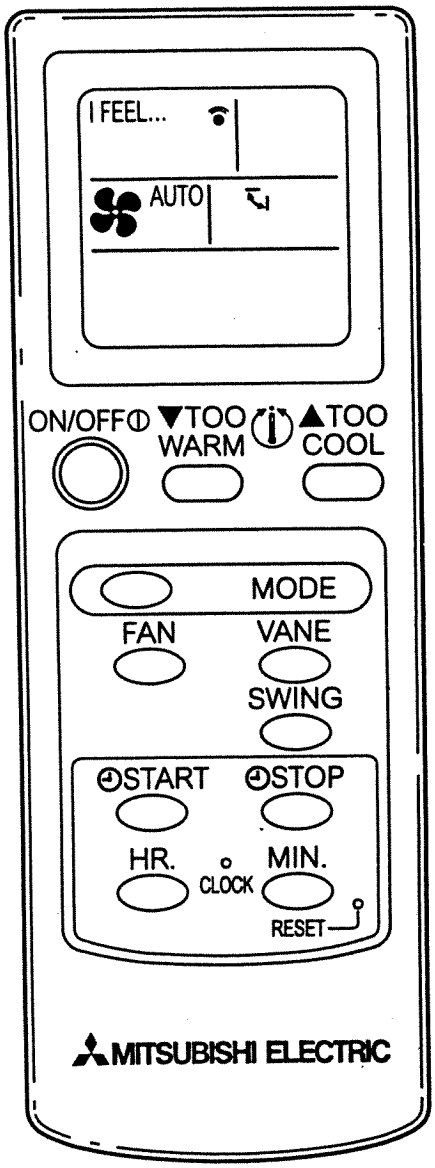


Adjust the vanes before starting operation starts.
Since the horizontal vane move automatically, your fingers may be caught.

SWING OPERATION

Perform the following operations while the unit is running.

For AIR FLOW to reach all corners of the room or to strike a point directly, use the swing operation.



Press the SWING button.

- **To release the SWING operation mode;**

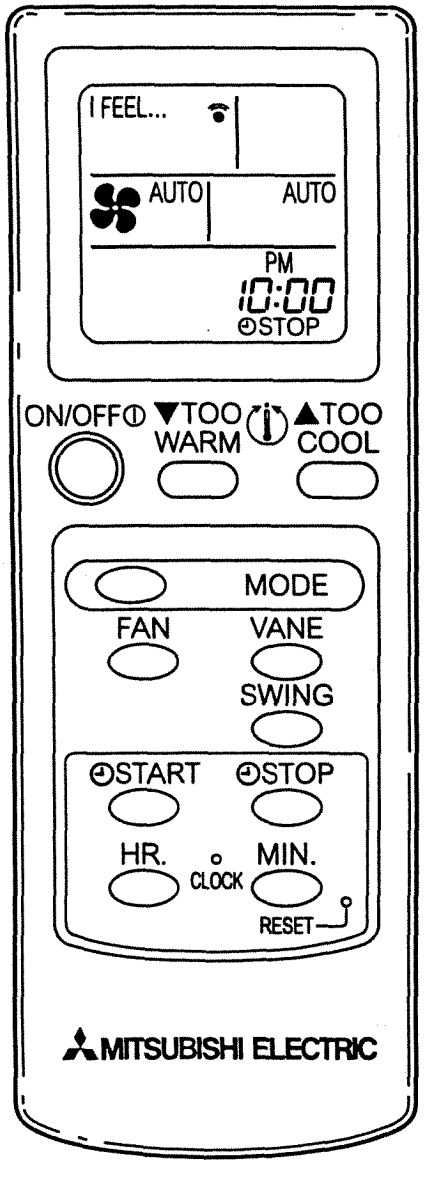
Press the SWING button again.

■ **If the VANE button is pressed during swing operation, swing operation is released.**

TIMER OPERATION (ON/OFF TIMER)

TIMER

It is convenient to set the timer for the time when you go to bed, when you get home, when you get up, etc.



How to set the ON timer

1 Press the START button to set the ON timer mode during operation.

Each time the button is pressed, the ON timer mode alternates between ON and OFF.

2 Set the time of the timer using the HR. and MIN. buttons.

Each time the HR. button is pressed, the set time is counted up by 1 hour; each time the MIN. button is pressed, the set time is counted up by 10 minutes.

- To release the ON timer:

Press the START button to release the timer.

How to set the OFF timer

1 Press the STOP button to release the timer mode during operation.

Each time the button is pressed, the OFF timer mode alternates between ON and OFF.

2 Set the time of the timer using the HR. and MIN. buttons.

Each time the HR. button is pressed, the set time is counted up by 1 hour; each time the MIN. button is pressed, the set time is counted up by 10 minutes.

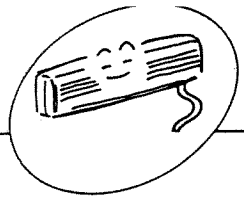
- To release the OFF timer:

Press the STOP button to release the timer.

Programming timer operation

The ON timer and OFF timer can be used in combination. The timer of the set time which is reached first will operate first. ("⇄" mark indicates the order of timer operations.)

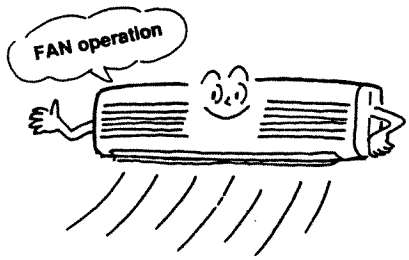
■ If the current time has not been set, the timer operation cannot be done.



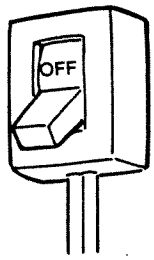
WHEN THE AIR CONDITIONER IS NOT GOING TO BE USED FOR A LONG TIME

When it is not going to be used for a long time:

1 Perform FAN operation for 3 or 4 hours to dry the inside of the air conditioner.



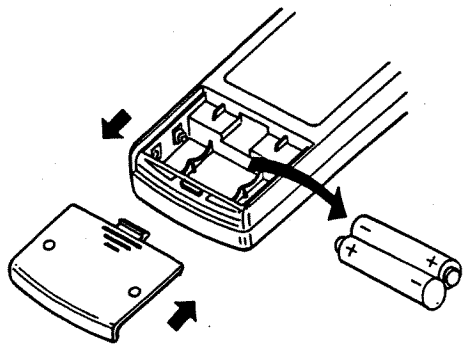
2 Turn off the breaker.



⚠CAUTION

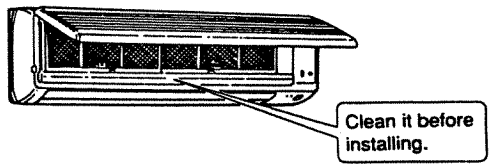
Turn off the breaker when the air conditioner is not going to be used for a long time.

3 Remove the batteries from the remote controller.

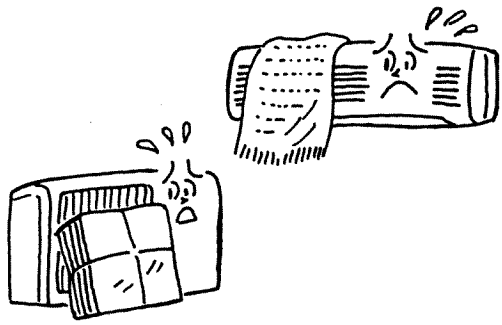


When the air conditioner is to be used again:

1 Clean the air filter and install it in the indoor unit.
(Refer to page 19 for cleaning it.)



2 Check that the air inlet and outlet of the indoor/outdoor unit are not blocked.



3 Check that the ground wire is connected correctly.

⚠CAUTION

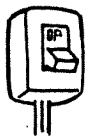
Apply grounding.

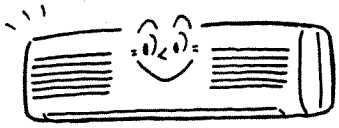
Do not connect a grounding wire to a gas pipe, water pipe, lightning rod or ground wire of a telephone. If a grounding is incorrect, it may cause an electric shock.

MAINTENANCE

Before starting maintenance

Turn off the breaker.





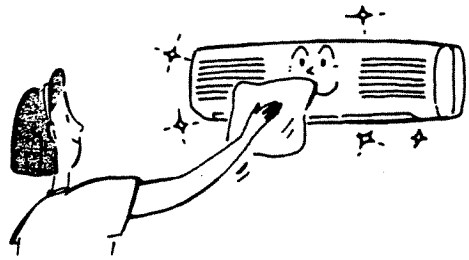
⚠CAUTION

When the unit is to be cleaned, switch off and turn off the breaker.

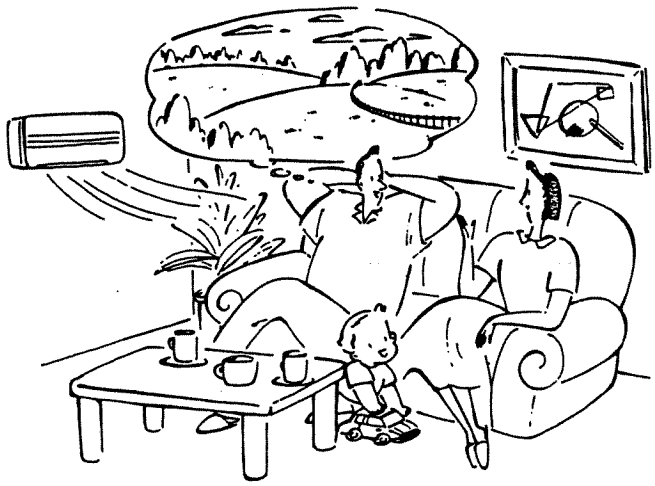
Since the fan rotates at high speed during operation, it may cause an injury.

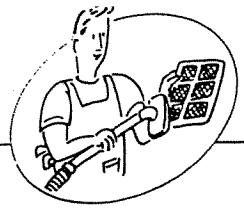
Cleaning the indoor unit

Clean using soft dry cloth.



Do not use gasoline, benzine, polishing powder and detergent. And do not spray with insecticide. The unit may be damaged.



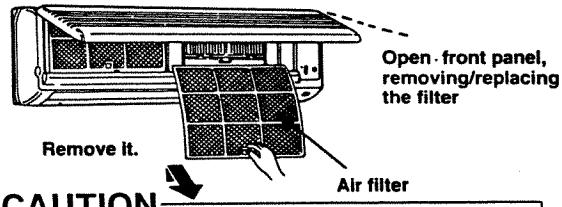


CLEANING THE AIR FILTER / DEODORIZING FILTER

When the front panel is to be opened, do not open it up to the level position. If you do, the front panel may come off.

Cleaning the air filter (about once every 2 weeks)

1 Remove the air filter.

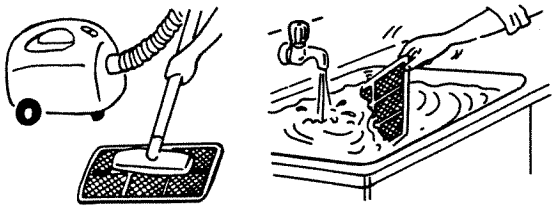


⚠CAUTION

When the air filter is to be removed, do not touch the metal parts of the indoor unit.
It may cause an injury.

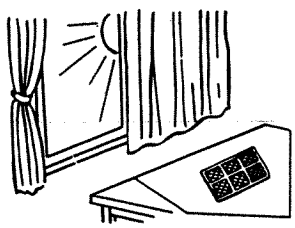
2 Clean dirt from the air filter using a vacuum cleaner or by washing with water.

- If dirt is conspicuous, wash with a solution of detergent in lukewarm water.
- If hot water (120°F or more) is used, it may be deformed.

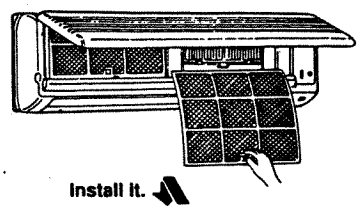


3 After washing with water, dry well in the shade.

- Do not expose the air filter to direct sunlight or heat from a fire when drying it.



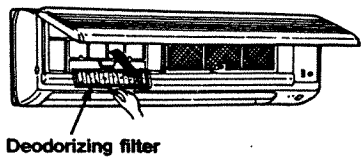
4 Install the air filter.



Cleaning the deodorizing filter (about once every 2 weeks) (OPTION)

1 Remove the air filter and then remove the deodorizing filter (gray sponge type).

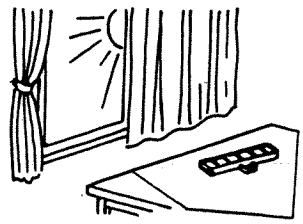
- The deodorizing is harmless to humans. However, to keep its effect, be sure to hold the frame and do not touch the surface of the filter with your hand.



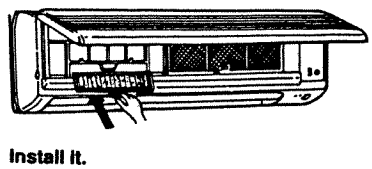
2 Soak the filter together with frame in lukewarm water for about 15 minutes.

- If dirt is conspicuous, use a solution of detergent in lukewarm water.
- Do not use a scrubbing brush or sponge. It may damage the surface of the filter.
- Do not use a chlorine detergent.

3 After washing with water/lukewarm water, dry completely in the shade.



4 Install the deodorizing filter (gray sponge type) and then install the air filter.

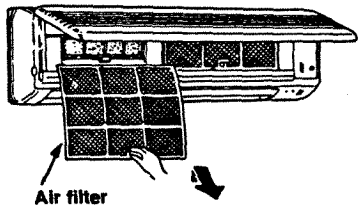


FILTER/AIR CLEANING FILTER (OPTION)

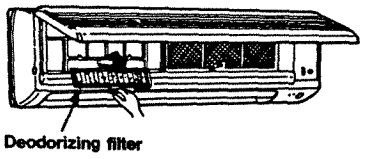
When the capacity is lowered because of dirt, etc., it is neccessary to replace the deodorizing filter/air cleaning filter.

Deodorizing filter replacement
(replace about once a year)

1 Remove the air filter.

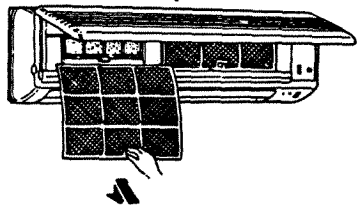


2 Remove the deodorizing filter (gray sponge type).



3 Install a new deodorizing filter.

4 Install the air filter. (Securely close the front panel.)

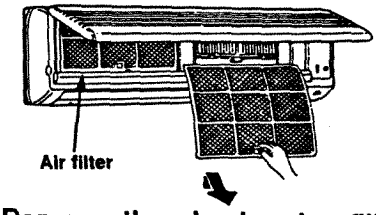


Deodorizing filter

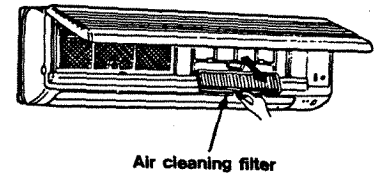
- Cleaning is neccessary about once every 2 weeks. However, if dirt is conspicuous, clean more often.
- When the color of the filter is not restored even if the filter is washed following the procedure shown on page 19 or when the filter becomes black, replace the filter with a new one.
- Standard interval for the filter replacement is about 1 year.

Air cleaning filter replacement
(replace about once every 4 months)

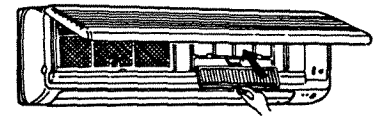
1 Remove the air filter.



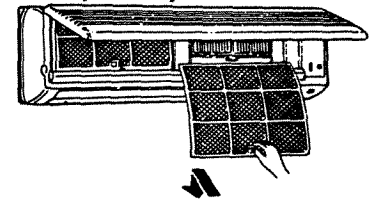
2 Remove the air cleaning filter (white bellow type).



3 Install a new air cleaning filter.



4 Install the air filter. (Securely close the front panel.)

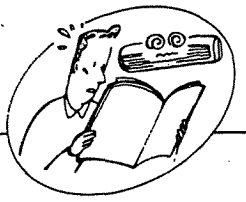


Air cleaning filter

- If the air cleaning filter is clogged, it may lower the unit's capacity or cause condensation at the air outlet.
- The air cleaning filter is disposable. The standard usable term is about 4 months. However, if the color of the filter turns to dark brown, replace soon.

Optional parts | Optional parts are available from your local dealer.

Name of part	Type name
DEODORIZING FILTER	MAC-1500DF (for MS09) MAC-1600DF (for MS12/15/17)
AIR CLEANING FILTER	MAC-1000FT (for MS09) MAC-1100FT (for MS12/15/17)

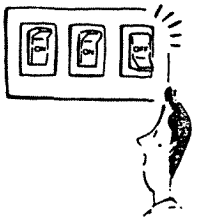


BEFORE CONTACTING THE SERVICEMAN, CHECK THE FOLLOWING AGAIN

The air conditioner cannot be operated.

Check the following.

1 The breaker is turned on and fuse is not blown.



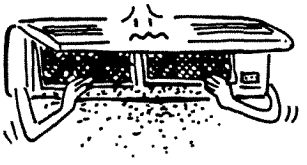
2 The ON-timer is not set.

Cannot be cooled sufficiently.

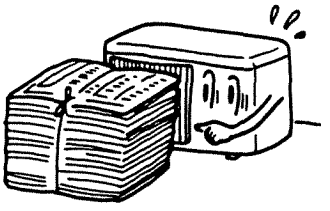
Check the following.

1 The temperature setting is correct.

2 Air filter is not dirty.

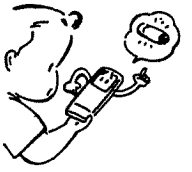


3 Outlet of the outdoor unit are not blocked.



Display of the remote controller does not appear. The remote control signal cannot be received if it is not near the air conditioner.

1 The batteries are exhausted.



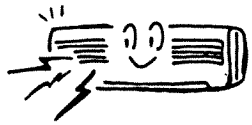
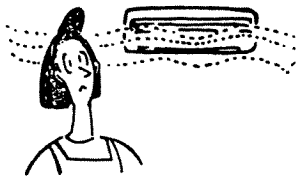
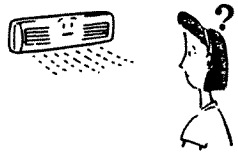
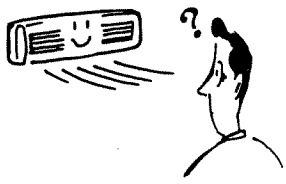
2 The polarity (+, -) of the batteries is confused.

Even if the above items are checked, when the air conditioner does not recover from the trouble, stop using the air conditioner and consult your dealer.

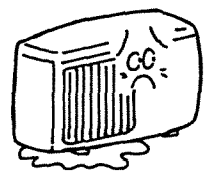
In the following cases, stop operation and consult your dealer.

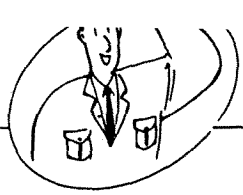
- The remote control signal may not be received in a room with an electronic ON/OFF type fluorescent lamp (inverter type fluorescent lamp, etc.) is used.
- In a weak radio wave area, when the air conditioner is operated, noise may be generated in SW radio reception.
- When thunder is heard, stop operation and turn off the breaker. Otherwise, the electrical parts may be damaged.

WHEN YOU THINK THAT TROUBLE HAS OCCURED

Question	Answer (not a malfunction)
The air conditioner cannot be operated about for 3 minutes when re-started.	■ This protects the air conditioner by instructions from the microprocessor. Wait.
Crack sound is heard. 	■ This sound is generated by the expansion/ contrastion of the front panel, etc. due to changes of temperature.
Room smells funny. 	■ The air conditioner sucks an odor adhering a wall, carpet, furniture, cloth, etc.and blow it out with air.
Fan stops during the DRY operation. 	■ If water condensing to the heat-exchanger evaporated again, the humidity increases. To prevent this, fan operation of the indoor unit stops when the room temperature has dropped sufficiently.
Water flowing sound is heard.	■ This is the sound of refrigerant flowing inside the air conditioner. ■ This is the sound of condensed water in the heat-exchanger flowing. ■ This is a sound of the heat-exchanger defrosting.
Air Flow direction is changed during operation. 	■ When the air conditioner is operated in the COOL or DRY mode, if the operation continues with air blowing down for 1 hour, the direction is automatically set to level to prevent condensed water from dropping.

WHEN YOU THINK THAT TROUBLE HAS OCCURED

Question	Answer (not a malfunction)
A mechanical sound is heard from the indoor unit.	■ This is the sound of the switch turning ON/ OFF the fan or compressor.
Water leaks from the outdoor unit. 	■ During cooling operation, pipe or pipe connector section are cool and cause water condensed.
The air conditioner does not operate when the main power is turned on.	■ If the unit was turned off with the remote controller or emergency operation switch before the shutoff of main power, the unit will not operate just by turning on the main power. Turn on the unit with the remote controller.



AND INSPECTION

Installation place

Avoid installing the air conditioner in the following places.

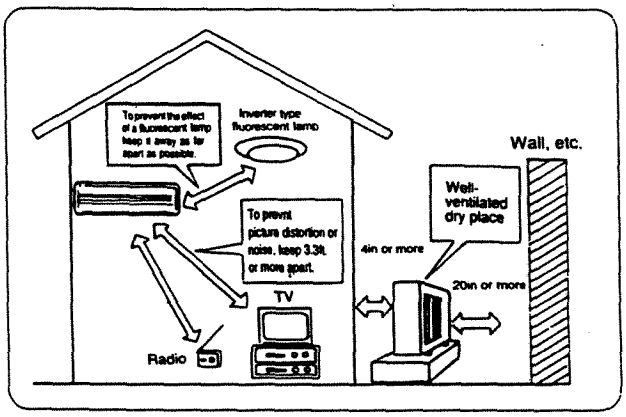
- **Where flammable gas could leak.**

⚠CAUTION

Do not install the unit where flammable gas could leak.

If gas leaks and collect around the unit, it may cause an explosion.

- **Where there is much machine oil.**
- **Salty place such as the seaside.**
- **Where sulfide gas is generated such as a hot spring.**
- **Where oil is splashed or is filled with oily smoke.**



Electrical work

- **Provide an exclusive circuit for power supply of the air conditioner.**
- **Use the correct power (voltage and frequency) indicated on the unit to operate the air conditioner and use only fuses or breakers with specified capacity. Do not use pieces of wire instead of fuses.**

⚠WARNING

- **The customer should not install this unit. If this is done incorrectly, it may cause a fire, electric shock, injury by dropping of the unit, water leakage, etc.**
- **Unit should be installed by licensed contractor according to local code requirements.**
- **Do not connect using branched outlet or an extension cord, and do not attach many loads one electric outlet. A fire or electric shock may result from poor contact, poor insulation, exceeding the permissible current, etc. Consult your dealer.**

⚠CAUTION

- **Apply grounding. Do not connect a groundingwire to a gas pipe, water pipe, lightning rod or ground wire of a telephone. If a grounding is incorrect, it may cause an electric shock.**
- **If the air conditioner is installed in a high humidity area or near a water source, a Ground Fault Interrupt (GFI) circuit breaker should be installed to protect against shock.**

Inspection and maintenance

- **When the air conditioner is used for several seasons, the capacity may be lowered due to dirt inside the unit.**
- **Depending on the use condition, an odor may be generated or dehumidified water may not drain out smoothly due to dirt, dust, etc.**
- **It is recommend to apply inspection and maintenance (charged) by a specialist in addition to normal maintenance. Consult your dealer.**

Also consider operation sound

- **Do not put an object around the air outlet of the outdoor unit. It may cause lowering of capacity or increase operation sound.**
- **If abnormal sound is heard during operation, consult your dealer.**

Relocation

- **When the air conditioner is to be removed or re-installed because of rebuilding, moving, etc., special techniques and work are required.**

⚠WARNING

Repair or relocation should not be done by the customer. If this is done incorrectly, it may cause a fire, electric shock, injury by dropping of the unit, water leakage, etc. Consult your dealer.

Disposal

To dispose of this product, consult your dealer.

If you have any questions, consult your dealer.

HVAC Advanced Products Division

3400 Lawrenceville Suwanee Road • Suwanee, Georgia 30024
Toll Free: 800-433-4822 • Toll Free Fax: 800-889-9904
www.mrslim.com

Specifications are subject to change without notice.